

OSHA FactSheet

Mold

Molds are the most common forms of fungi found on earth. They can grow on almost any material, as long as moisture and oxygen are available. Most molds reproduce through the formation of spores, tiny microscopic cells that are resistant to drying and are released into the air. Airborne spores are found both indoors and outdoors. When spores land on a suitable moist surface, they begin to grow and release chemicals that digest and can eventually destroy the surface and underlying materials. Molds can also cause adverse health effects.

Health Effects of Mold Exposure

Molds can cause mild to severe health problems in sensitive individuals when a sufficient number of airborne spores are inhaled. Some individuals are far more sensitive than others. The most common health effects associated with mold exposure are allergic reactions.

Symptoms may include:

- Sneezing
- Runny nose
- Eye irritation
- Cough
- Congestion
- Aggravation of asthma
- Dermatitis (skin rash)

People at Greatest Risk

Infants, children, and the elderly are more susceptible to health problems attributable to molds. In addition, people with the following underlying health conditions may be more sensitive to molds:

- Individuals with allergies or existing respiratory conditions including asthma, sinusitis, or other lung diseases.
- Individuals with a weakened immune system (e.g., HIV patients).
- Recent organ or bone marrow transplant patients.
- Patients recovering from recent surgery and receiving chemotherapy or long-term steroid treatment.

How to Recognize Mold

Mold may be recognized by:

- Sight – They usually appear as distinctly colored woolly mats (e.g., mildew is black and is one of the most common molds in a household).
- Smell – They often produce a foul odor, such as a musty, earthy smell.

Preventing Mold Growth

The key to mold prevention is moisture control. Mold will not grow if moisture is absent.

- Remove excess moisture with a wet-dry vacuum and dry out the building as quickly as possible (preferably within 24 to 48 hours).
- Use fans to assist in the drying process.
- Clean wet materials and surfaces with detergent and water.
- Discard all water damaged materials.
- Discard all materials visibly contaminated with mold.
- Remove and discard all porous materials that have been wet for more than 48 hours. Porous materials cannot be cleaned and may remain a source of mold growth. These materials include the following:
 - ♦ Carpeting and carpet padding;
 - ♦ Upholstery, wallpaper, drywall;
 - ♦ Floor and ceiling tiles, insulation materials;
 - ♦ Clothing;

- ◆ Leather;
- ◆ Paper, wood;
- ◆ Food.
- Homeowners may want to temporarily store items outside of the home until insurance claims can be filed.

General Cleanup Tips

- Make sure the working area is well ventilated.
- Place mold damaged materials in a plastic bag and discard.
- Clean mold off hard surfaces and other nonporous materials with detergent and water, and dry completely.
- Disinfect these cleaned surfaces with one of the following household bleach solutions:
 - ◆ 1/4 cup household bleach per 1 gallon of clean water for light contamination.
 - ◆ 1 1/2 cups household bleach per 1 gallon of clean water for heavy contamination.

CAUTION: Do not mix bleach with other cleaning products that contain ammonia. Highly toxic chlorine gas can be produced.

- Avoid breathing mold spores. A N-95 respirator is recommended.
- Avoid touching mold with your bare hands. Long gloves that extend to the middle of the forearm are recommended. Use ordinary household rubber gloves when cleaning surfaces with water, bleach, and a mild detergent. Gloves made from natural rubber, neoprene, nitrile, polyurethane, or PVC are recommended if using a disinfectant, biocide, or strong cleaning solution.
- Avoid getting mold spores in your eyes. Goggles without ventilation holes are recommended.

Additional Information

Visit OSHA's Safety and Health Topics webpage on Molds and Fungi at <http://www.osha.gov/SLTC/molds/index.html>

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:



Occupational
Safety and Health
Administration

U.S. Department of Labor

www.osha.gov

(800) 321-OSHA

DSG 9/2005



Combustion Safety Test Sheet



House Address: _____

DATE: _____

- 1 Calibrate Monoxer **OUTSIDE**
- 2 Record outdoor temperature
- 3 Record Living Space ambient CO (if >9, corrective action required)
- 4 Inspect combustion equipment thoroughly
- 5 Put house in wintertime condition (close exterior doors and windows)
- 6 Put all combustion appliances to "pilot"
- 7 Setup DG-700 and hoses to record **BASE** Pressure (CAZ WRT outdoors)
- 8 Turn off ALL air moving devices (HVAC, exhaust fans, etc)

°F	
ppm	PASS / FAIL

- 9 Record **BASE** Pressure
- 10 Establish **GROSS** worst case depressurization
- 11 Calculate **NET** worst case depressurization (**GROSS-BASE**)
- 12 Does **NET** meet CAZ Depressurization Table Limits? (from chart)
- 13 Prepare for Spillage, Draft, and CO
- 14 Turn on appliance (if more than one per CAZ, fire smallest to largest)
- 15 Under Worst Case, does appliance spillage stop before **1 Minute**?
 - a. Appliance 1:
 - b. Appliance 2:
 - c. Appliance 3:

CAZ Open	CAZ Closed
Pa	Pa
Pa	Pa
Pa	Pa
YES / NO	YES / NO

- 16 Under worst case, measure draft
 - a. Appliance 1:
 - b. Appliance 2:
 - c. Appliance 3:
- 17 Does appliance meet Acceptable Draft Test Ranges (from chart)?
 - a. Appliance 1:
 - b. Appliance 2:
 - c. Appliance 3:

YES / NO
YES / NO
YES / NO

Acceptable
(from chart)

Pa	Pa
Pa	Pa
Pa	Pa

- 18 Measure CO
 - a. Appliance 1:
 - b. Appliance 2:
 - c. Appliance 3:
- 19 Does appliance meet CO requirements?
 - a. Appliance 1:
 - b. Appliance 2:
 - c. Appliance 3:

YES / NO
YES / NO
YES / NO

ppm
ppm
ppm

YES / NO
YES / NO
YES / NO

- 20 If any test fails, repeat tests under Natural Conditions (use new test sheet)
- 21 Return home to normal operating conditions

CAZ Depressurization Limits	
Venting Condition	Limit (Pascals)
Orphan natural draft water heater	-2
Furnace drafted with water heater	-3
Furnace with damper commonly vented with water heater	-5
Individual furnace or water heater	-5
Induced draft furnace vented with water heater	-5
Power vented furnace alone, or water heater alone	-15
Direct vented appliances, sealed appliances	-50

» CAZ Worst Case fails if it is **MORE NEGATIVE** than the limit (i.e. -6 is **MORE negative** than -5)

Acceptable Worst Case Draft Test Ranges				
<20°	21° - 40°	41° - 60°	61° - 80°	>80°
-5 pa	-4 pa	-3 pa	-2 pa	-1 pa

» Worst Case fails if it is **MORE POSITIVE** than acceptable range (i.e. -1 is **MORE positive** than -3)

Combustion Safety Test Action Levels			
CO Test Result	And/Or	Spillage and Draft Results	Retrofit Action
0-25 ppm	And	Passes	Proceed with work
26-100 ppm	And	Passes	Recommend that the CO problem be fixed
26-100 ppm	And	Fails at worst case only	Recommend a service call for the appliance and/or repairs to the home to correct the problem
100-400 ppm	Or	Fails under natural conditions	Stop Work: Work may not proceed until the system is serviced and the problem is corrected
>400 ppm	And	Passes	Stop Work: Work may not proceed until the system is serviced and the problem is corrected
>400 ppm	And	Fails under any condition	Emergency: Shut off fuel to appliance and have the homeowner call for service immediately

